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Tuberculosis in Cattle—Impending Legislation

From the agricultural columns of *The Times* we republish an article this week on Milk Supply Regulations. The writer bases his remarks chiefly on the proceedings of a Committee of Agricultural and Breed Societies—an abstract of which we reprinted last week.

These two articles indicate a change in the attitude of the agriculturist towards legislation against tuberculosis. What exactly the change is we cannot grasp. So far we only recognise that the owner of stock has awakened to the fact that public opinion requires some action to be taken, and the bucolic mind is a little alarmed that the inevitable action may interfere with his self-interest. The Local Government Board will this Session introduce a Bill dealing with the Milk Supply, and as the Local Government Board includes in its work the supervision of Public Health it is tolerably certain that the Medical Department will have a full say in the proposed regulations.

Now the chief danger of milk is infection by tuberculosis from the cow, and it goes without saying that regulations of some sort against Bovine tuberculosis will become law when the Bill is passed. All experience and trained intelligence knows that the best point to attack an evil is at its source, and the officers of the Medical Department fully recognise this fact. Legislation to protect milk from contamination by bovine tuberculosis must be directed to the cow, and therefore we anticipate that an inroad will be made upon the Diseases of Animals Act, and some duties which ought to belong to the Board of Agriculture will be transferred to the Local Government Board.

That the stock-owners have a similar fear to that we express may be gathered from a remark by Lord Northbrook at the Committee meeting—"If there is to be inspection of dairy herds at all we would much sooner have that under the Board of Agriculture than we would be left to the tender mercies of the Local Government Board. We have rather a dread of the Medical Officer of Heath in these matters, and would much sooner have a recognised veterinary surgeon." The feeling here expressed is a very natural one, because there can be no doubt which profession knows most about the subject, and because zeal with ignorance is always to be avoided.

The report of the proceedings we published last week was only that of the first meeting of the Committee, but we must say we do not quite like the direction indicated. The members centred themselves on "Milk" and only referred to "Meat" as a "part of the question which would no doubt be discussed by the Committee." It is clearly impossible to control tuberculosis in cattle if only dairy stock is to be interfered with. The milk producer is even now not such a sufferer from the disease as the meat purveyor. Meat and milk should both be protected.

We cannot help thinking that the agriculturist is playing a waiting game. If the Local Government Board Bill is only applicable to dairy stock no action will be taken, and the butcher may fight his own battle without assistance. If meat were taken up, all cattle would be included and then the agriculturist would be brought into the meshes of legislation.

Many men will say—Why should not tuberculosis in all cattle be attacked? The only reasonable reply is that it should. Then why not schedule the disease under the Diseases of Animals Act? The answer to this question is suppressed, but not unapparent to those who read between the lines of the Committee's proceedings.

The Committee consists chiefly of pedigree breeders and these are the men of money and influence—the men who lead—and who have before shown their super-estimate of their own interests. The breeders of pedigree stock are afraid of the notification which would follow scheduling tuberculosis. Their action is at best short-sighted. By opposing legislation they only postpone the evil day, and may probably permit the Local Government Board to annex powers which ought only to be possessed by the Board of Agriculture.

Those who remember when pleuro-pneumonia was rife will recollect how the same stupid obstruction was practised. The pedigree men—the rich owners and the landed proprietors—opposed legislation, and the disease persisted. Then the foreign buyer got legislation against British stock being imported, and the pedigree men found their best market closed. Self-interest at once recognised the position, and a deputation of the Royal Agricultural Society waited upon the Board of Agriculture to insist upon the necessity of stamping-out pleuro-pneumonia. Legislation followed, and pleuro-pneumonia disappeared in three years.

History repeats itself, and if the stock-owner has not learned wisdom he will soon be taught by foreign buyers declining to allow his diseased animals to infect their stock.

There are few countries now which allow British cattle to enter their ports except after passing the tuberculin test. There will soon be none, and then the pedigree men will give the weight of their influence in favour of scheduling tuberculosis.

To tackle the disease "at its source" means that all cattle must be under control, and it is not difficult to schedule tuberculosis without unnecessarily harrassing farmers. The man who objects to com-

pulsory notification has something to hide, and if that something is a danger, through meat and milk, to human beings it is quite time his hidden danger was exposed.

The stock-owner, who has a rational dread of the medical officer and the Local Government Board, would be well advised to grasp the nettle firmly, and make terms with the Board of Agriculture whilst it is possible. If he delays his future will be worse than his present dilemma.

The Cape Veterinary Surgeons Act.

All who follow the progress of our colleagues abroad will share our regret that it has been found advisable to abandon this measure for the present. Its promoters found that, in the present state of public opinion, the Bill could not be introduced to the Legislature with any chance of success; and wisely, therefore, decided to postpone the matter indefinitely.

This, however, is merely a temporary check, which should not be discouraging. British South Africa is a young country, and only in recent years has it contained qualified veterinarians in any appreciable numbers. It is not surprising, therefore, that many of its inhabitants do not yet correctly estimate the importance of the profession. All that is necessary is to educate the public, and we have many able colleagues at the Cape who may be relied upon to do this in the best manner—by the effect of their work. The value of veterinary knowledge will inevitably be recognised in time, and the legal establishment of the profession will follow as a matter of course. Our own Act of 1881—a measure very similar to the one proposed for the Cape—was not obtained till the R.C.V.S. had existed nearly forty years.

But the twentieth century is more progressive than the nineteenth, and we do not think the Cape veterinarians will have to wait very long.

"COLIC."

By E. Wallis Hoare, F.R.C.V.S.

If there is one subject more than another in veterinary medicine to which the well-known aphorism of Hippocrates "Experience is fallacious and judgment difficult" is applicable, it is that which refers to the diagnosis of gastric and intestinal affections in the horse. There are on the one hand clinical observers who claim that they are able to differentiate gastric from intestinal affections by the recognition of certain symptoms, and a consideration of the history of the case. There are on the other hand clinical observers, careful and experienced, who admit that such differentiation is practically impossible. Probably those who attempt to lay down diagnostic symptoms, have either been very fortunate in their diagnosis—that is if they have verified their opinions by autopsies—or is it not possible that imagination may step in and play an active part in the assumption of such skill? Now a case showing symptoms of abdominal pain may recover, either with the assistance of treatment, or, as often occurs, spontaneously, or occasionally in spite of treatment, and when I hear a veterinary surgeon egotistically declare that from his clinical knowledge he can tell whether the source of the pain is in the stomach, small intestine or large intestine, I have not the slightest hesitation in stating that such a practitioner is suffering from a chronic form of "sopho-mania."

If, on the other hand, a number of experienced observant practitioners state that certain symptoms are diagnostic of certain conditions, and if they bring forward post-mortem records to substantiate their views, then indeed their opinions are entitled to respect, and they have added valuable support to the fabric of therapeutical science.

If, however, I find that a large number of practitioners corroborate my own experience in the diagnosis of such affections, *i.e.* that in the great majority of cases when careful post-mortem examinations are performed on every available occasion the diagnosis has proved to be erroneous, and the so-called "diagnostic" symptoms "a mockery, a delusion, and a snare," then indeed I feel that my ignorance is not phenomenal.

It is refreshing, however, to learn from Mr. Mayall's article in *The Veterinary Record* of January 11th, that by attention to the clinical history and to certain symptoms one can readily differentiate, in the large majority of cases, gastric affections from affections of the large colon. I am quite ready to admit that impaction of the large colon is a condition which can be diagnosed, but if he means us to infer that, in the absence of such a condition, a gastric affection can be differentiated from an intestinal one then I must join issue with him.

A fairly large experience with such affections in all classes of horses and under a variety of conditions, together with records of clinical histories and post-mortem examinations, teaches me that, in the large majority of instances, if the diagnosis was correct it was due to chance rather than to diagnostic skill. In fact the number of cases in which the diagnosis was correct as verified by autopsies was so small that it was sufficient to confirm the sceptical views that I had heard expressed by other practitioners on the subject. Of course everyone is perfectly justified in drawing conclusions from their own experience; at the same time it sometimes happens that one's experience in a series of cases of the same kind may be unique and quite out of the ordinary.

For instance, my experience does not agree with the views expressed by Mr. Mayall as to the clinical history of gastric affections. I have seen so many cases of intestinal affections (verified by autopsies) that have occurred soon after feeding that I cannot accept the short period of time as being of value in excluding or including the stomach in diagnosis. Neither can I regard the symptoms he mentions as diagnostic of a gastric affection; they are suggestive, but are not to be relied on.

Mr. Mayall mentions "stomach trouble" and "indigestion," but appears sceptical about the diagnosis of "distension of the stomach." I am quite in agreement with him as regards the symptoms of distension of the stomach externally as being purely imaginary, but I think there are some cases of gas-

tric impaction and gastric tympany that can be diagnosed. Of course, if these are complicated with cerebral affections the diagnosis is rendered far more difficult.

The last case of acute gastric impaction I saw showed acute tympanites, great straining, and continuous abdominal pain. The animal was fed early in the morning and did not show any pain until she had been driven seven or eight miles under a common cart. If one sees a case of acute abdominal pain soon after feeding, surely if the stomach is not a very sensitive organ, as he says, it is hardly logical to ascribe the pain to this organ.

If, as some believe, colic be due to the presence of irritating ingesta in the intestine, the physiology of the horse's stomach would lead us to infer that a fair amount of ingesta passes out of the stomach during feeding, and if of an irritant nature may produce intestinal colic. If this be so I see no reason why intestinal colic should not occur soon after feeding.

The case of death from the presence of bots in the stomach mentioned by Mr. Mayall is interesting, but the *cause* of death requires explanation. "Fæcal stasis" with the intestinal contents semi-liquid, is rather an unusual occurrence, and some peculiar cause must have been at work.

Mr. Mayall is of opinion that "science has advanced as regards the diagnosis of stomach and large colon troubles." Candidly I fail to see where the advancement comes in. Human medicine has advanced in this direction because of the facility with which abdominal explorations can be carried out. Human surgeons tell us that symptoms are very often deceptive, and that in many instances it is only when they explore the abdominal cavity that they ascertain the real state of affairs. Occasionally the surgeon finds nothing to account for the symptoms.

What do we find in veterinary medicine? The older writers placed more implicit faith in symptoms than we do in the present day, there is more tendency in recent years to admit our ignorance in these matters—at least among those who are not egotistical, or who do not assume the cloak of infallibility. But the advancement is still to come, and the only sure road to progress is that which leads those who have opportunities, to collect clinical data in conjunction with post-mortem observations.

Unfortunately it often happens that those who have the best opportunities fall into the rut of everyday experience and become apathetic. Or worse still, they may possess an exalted opinion of their knowledge and imagine they have reached the acme of clinical ability.

Until the knowledge of diagnosis becomes improved, the therapeutics of abdominal pain will continue in its present empirical condition. We shall still have one set of practitioners pinning their faith to gastric and intestinal sedatives, and regarding opium as their sheet anchor; others loudly proclaiming the virtues of aloes, while others again will laud the "kill or cure" properties of eserine, barium chloride, or arecoline, and propound the dogma that if the case be a fatal one the drug will hasten the result—a veritable euthanasia for the patient, and economical to his owner. Nor must we forget the devotees of ammonium carbonate and nux vomica, who, too, claim a large number of successful results. Even the wholesale chemists have added to the list by supplying preparations with fancy names warranted to cure any condition of the alimentary canal, their virtues lauded by voluble Cassios who bring round samples of secret formulæ.

So that there exists the *Sedative* School, the *Purgative* School, the *Drastic* School, the *Stimulant* School, and the *Patent Medicine* School; probably next we shall have the Christian Science School.

And still we flatter ourselves into the unctuous belief that science has advanced in the diagnosis of stomach and intestinal diseases! Truly we require the "wise scepticism and judicious prejudice to prevent us from falling into a condition of "masterly inactivity" as regards this subject.

THE SWINEY LECTURES.*

HORSES OF THE PAST AND PRESENT.

VII.

Asses and Zebras.

The horse can be traced to a remote past: the ass, there can be little doubt was also in existence at a very early period.

The asses of Asia are quite distinct from those of Africa. The latest classification divides them into five divisions:—

Equus hemionus, whose home is Mongolia and Turkestan, has a dorsal band, but no shoulder stripe whatever, with ears slightly shorter than those of the Abyssinian ass.

Equus hemionus kiang lives in the highlands of the upper valley of the Indus, in Tibet and Ladak, seldom below 10,000 feet above sea-level. It is a great ass, exceeding 13 hands; its dorsal stripes very narrow; its hind quarters long and strong.

Equus onager, *Equus onager indicus*, and *Equus onager hemippus* differ but slightly. The dorsal stripe is dark brown, of varying width, but normally wider than in the kiang, and, at times, edged with white. They are from 11 to 12 hands in height, and find their home on all the great plains of Asia. Equus onager, which Mr. R. Pocock, of the London Zoological Gardens, describes as "a white animal with a yellow blotch on the side, another on the neck and some yellow on the head," in Persia and Turkistan; indicus, in North-west India and Baluchistan; and hemippus in Syria.

The wild ass of North-east Africa, *Equus asinus* Linn., the ancestor of the species common in Britain, has its home to this day in Nubia, to the east of the Nile. It differs from Asiatic asses in having larger ears, being grey, not rufous-brown or yellow, and in possessing a distinct shoulder stripe, though varying somewhat in length, from the withers to the top of the foreleg.

* The first of these digests of lectures by Prof. J. Cossar Ewart, M.D., F.R.S., appeared in our issue of the 14th December.

A second African species is the ass of Somaliland, *Equus asinus somalicus*, which is larger than the Nubian, and is especially characterised by distinct stripes on the legs. It is possible the Somali ass has taken part in forming some of the domestic breeds.

ZEBRAS.

These gay-liveried dandies of the horse family are confined to Africa. There are at least three distinct types: (1) The Mountain or Common Zebra, *Equus zebra*, (2) Grevy's or *Equus grevyi*. and (3) those of East, South and Central Africa, *Equus burchelli*, which cannot be easily distinguished by their markings.

The first, which is only about 12 hands high, was common in the mountains of Cape Colony and Natal, but is now almost extinct in South Africa, though fairly numerous in Angalaland. It is more like an ass than Equus burchelli is, as its hoofs are narrow, tail more tufted, mane shorter, neck thicker, its 7½ in. ears longer, and has large and very broad chestnuts on the forelegs. Its general ground colour is white, the stripes black, and broader than the interspaces. Those on the body are practically perpendicular, and the legs are completely covered with horizontal bands. Mr. Pocock, in 1897, was the first to draw atttention to the narrowness of its dorsal band, as a characteristic of the species. Yet the most distinctive feature is its "gridiron markings"—a series of transverse stripes running across the top of its hind quarters, croup and base of its tail. Unlike other zebras, it never left the uplands.

Equus Grevyi, named after the President of the French Republic, roams the mountains of Somaliland and Shoa. It is well described as splendid, standing about 15 hands high, its white or brown ground colour being finely decorated with numerous delicate intensely black or brown stripes, forming a characteristic pattern—the primitive zebra livery. Those on the forehead, which is mounted by long and very wide ears, forming a series of arches characterised as rounded. It resembles the African ass in having long heels and a large frog, but agrees with the horse in its hoofs being rounded in front, which distinguishes it from Burchelli.

Equus Burchelli, named after the traveller, who met with it on the Orange River in Southern Bechuanaland—its southern limit, the northern being the Equatorial Lakes—is characterised by "having fewer and much broader stripes, which are disposed in a pattern quite distinct on both body and head"—those on the forehead being much more pointed than in Equus grevyi, except in the interesting *Equus crawshagi* of the highlands of Nyassaland which Prof. Cossar Ewart considers is the link between the Mountain and Burchell's zebra—"in having perfectly white legs, and scarcely a vestige of transverse stripes across either the croup or hind quarters." Its ancestors, once upon a time, more or less resembled in markings the common zebra of to-day, and the still more remote ancestors probably resembled in their markings the Somali zebra; but it must not be inferred from this that the Burchell has been derived from the Mountain zebra.

I cannot close these digests without acknowledging my deep indebtedness to Prof. Cossar Ewart, whose courtly kindness has prevented more than one serious error.

GEO. H. BROCKLEHURST, B.Sc.

ABSTRACTS FROM FOREIGN JOURNALS.

EVERSION OF THE UTERUS IN COWS.

Various methods of compressing the everted and congested uterus have been suggested, in order to reduce the swelling which so often impedes its replacement. Heretofore, an unsatisfactory feature of these procedures has been that they failed to produce a regular and uniform pressure upon the whole extent of the prolapsed organ. M. Bru, a French veterinary surgeon, has now devised a modification of previous methods, which is here summarised.

The requisites are simple, consisting of two cloths, and an instrument which may be easily made, or improvised on any farm, viz., a wooden staff about three feet long, and three-quarters to an inch square in cross-section; the angles being slightly chamfered. A cross-piece about 16 inches long is firmly fixed to one end, making a T-shaped handle by which a strong rotatory impulse can be imparted to the instrument.

The cow is placed with the hind-quarters elevated, and the uterus is cleansed and disinfected. One of the two cloths is then placed under the uterus, in such a fashion that its anterior edge reaches exactly to the vulva, while the posterior edge extends at least 10 inches behind the uterus. If the uterus is very heavy, it should be supported by a plank placed cross-wise underneath it, and held by two assistants.

The lateral borders of the cloth are raised on each side; and their edges, throughout their length, are brought together above the uterus. The edges, thus doubled, are then rolled together like a roll of paper, enclosing and gradually compressing the whole extent of the uterus.

A longitudinal pad is thus formed, which one assistant continues to roll as tightly as possible with his fingers, while another twists the extremity of the cloth projecting behind the uterus, and so increases the compression.

The application of this first cloth has the effect of sensibly diminishing the volume of the uterus and rectifying its form. When its action appears to be as far advanced as possible, the second cloth is applied round it in the same manner as it (the first cloth) was previously applied round the uterus. This second cloth should project but little behind the uterus, leaving the twisted end of the first free.

The hands which maintain the rolled pad of the first cloth are then withdrawn, and the lateral edges of the second cloth are brought together above this and rolled, not upon themselves as in the first place,

but around the wooden staff. The square stem and cross-handle of the staff enable it to be used as a powerful instrument of rotation, and a considerable increase of pressure is thus brought to bear upon the uterus, as the second cloth is gradually tightened over the first, the free end of which is still twisted. The organ rapidly diminishes in volume, being reduced by more than one-half in 10 or 15 minutes. The reduction is facilitated by massage, which should be chiefly applied under the line of enrolment, in order to prevent pinching of the mucous membrane or cotyledons.

The assistant who rotates the staff may place himself higher than the cow in order that gravity may assist the expulsion of blood from the uterus—resting the end of the staff, which should be left free before the enrolment for this purpose, upon the animal's croup, and using it as a lever of the second order to support the weight of the uterus.

When the organ is judged sufficiently reduced in size, the cow's nose is held, the loins pressed, the tail raised, and a little oil applied round the vulva. The cloths are then rapidly removed from the uterus, which is found greyish and bloodless, the cotyledons being flattened and scarcely projecting. The uterine walls are now so flaccid that the organ is easily returned into the abdomen, only very moderate pressure being required. Care must be taken to prevent a second prolapse.

A French critic suggests that an elastic material should be substituted for the second cloth.—(*Annales de Méd Vét.*

W. R. C.

[This method is certainly very ingenious, but it cannot be considered altogether free from danger. The cases for which it was devised, however, are invariably serious, so it is possible that some English practitioner may be induced to try it.—TRANS.]

TREATMENT OF TRAUMATIC ARTHRITIS.

Dr. G. Giovannoli, after three years trial, speaks most highly of the following method of treating open joint and similar injuries.

Biniodide of mercury ointment 1 in 8, and olive oil in equal parts to the amount of about 30 grammes are injected into the affected joint, and an antiseptic bandage applied, the animal kept perfectly quiet, and an effectual cure takes place in about three weeks.—*La Clin. Vet.*

F. E. P.

A CURIOUS CLINICAL CASE.

During an hour a cow was noticed to be uneasy and the following symptoms ensued: She lay on her side, with her legs stiff, her head lay on her flank, and the neck was so stiff that it could not be turned, but now and then she would straighten it herself, no movement of the bowels, heavy breathing, groaning at intervals, no pulse at the jaw, 120 heart beats per minute, temperature extraordinarily high, 43 C. Things seemed as if it were the last stage of tetanus.

The next day, as the animal was just the same, slaughter was decided upon, the animal was dragged by a rope round the horns by two horses into a slaughter-house, and left about ten minutes: when the butcher came back, she was on her feet apparently all right, temp. 39·8 C., pulse 80, good appetite, grating of the teeth nearly disappeared. The animal remained apparently healthy all day, but was found dead next morning, probably from paralysis of the heart, but an autopsy discovered no lesions of any sort.—*Woch. f. T. u. V.*

MILK SUPPLY REGULATIONS.

Provided he keeps the practical aspect of the subject sufficiently in view, the President of the Local Government Board will obtain the active support of dairy farmers in his endeavour to regulate and improve the character of the milk supply. In some quarters it is believed that farmers as a class are opposed to the imposition of new regulations as to the housing and general treatment of their herds, methods of milking, and the consignment of the milk to market. This is an erroneous assumption which is unfair to the producer in that it is calculated to prejudice him in the eyes of the general public. There may be exceptions, of course, but, speaking of dairy farmers as a whole, it is true to say that they are ready to conform to reasonable modifications in the conditions governing production.

The impending legislation on the question of the milk supply has stimulated a movement in producing circles which in scope and activity reflects a degree of unity and determination unusual among agriculturists. The attitude of the producers, however, is not one of opposition to needful legislative reforms, but has been assumed with the double object of assisting the authorities in the realisation of their desire and preventing the imposition of useless, hampering restrictions. The desire of producers is to co-operate amicably, through the medium of the Board of Agriculture, with the Local Government Board in arriving at a satisfactory solution of this important problem. They do not seek to minimise the far-reaching influence of the question as it affects the consumer, but they recognise, perhaps more adequately than is possible for those not versed in practical affairs, the risk of injury to themselves and also to the consumer from the indiscriminate imposition of exacting regulations.

The public mind has been so greatly agitated by exaggerated accounts of the existing defects that legislation is regarded even by farmers as inevitable. To some extent they feel that they are the victims of a groundless agitation, yet they are prepared to comply with practicable reforms. Experiences of past legislative efforts, however, inspire anxiety as to the regulations that will be imposed. In the framing of measures of the kind, it is easier to proceed on theoretical than on practical grounds, and any one acquainted with the management of live stock and dairying will appreciate the injury that would result to an important branch of farming if practical considerations were subordinated to theoretical. It is a well-founded fear lest anything of the kind should happen that is so strongly stirring the farming community. It is felt that the Local Government Board are actuated by considerations for the consumer, and that in their eagerness in behalf of their clients they may make production a difficult, if not an impossible, business. But if the Board of Agriculture were to co-operate with the Local Government Board, farmers would feel more assured of just and reasonable consideration. They have full confidence in the Veterinary Department of the Board under Mr Stockman, and their desire is to strengthen the hands

of Lord Carrington in his endeavour to see that the rights and necessities of production are properly respected in the coming legislation. What the farmers most dread is unnecessary interference with the conditions of housing, feeding, and milking of their herds. They are not averse from systematic inspection, but they naturally insist that the inspectors employed shall possess a sufficient practical knowledge to enable them to discriminate between the varying circumstances of individual cases and to arrive at a just decision as between the contending interests of producer and consumer. It would be a mistake to conclude that the interests of the two parties are inalienably antagonistic or that the safety of the consumer moves in proportion to the inconvenience imposed upon the farmer. Efficiency and simplicity are perfectly compatible, and the interests of both parties will be best served if legislation is carried out on this principle.

The most difficult aspect of the question is that relating to tuberculosis. The results of the experiments carried out by the Royal Commission on Tuberculosis at Blythwood point to the identity of the human and bovine forms of the disease, and as it is believed that the bacilli, though possibly not in dangerous quantities, can be communicated with milk, the importance of strict supervision of the sources of supply is recognised. Farmers would be the last to resist reasonable government action in this matter. At the same time they urge that they have claims for consideration in the framing of legislative proposals. As was mentioned some time ago, a representative and influential committee, with Lord Northbrook as chairman, has been formed—their first report has just been issued from 16, Bedford Square, W.C.—to safeguard the interests of producers in reference to this question. The step was a proper one and indicates that the farming community are no longer to remain passive when questions affecting their welfare are raised in Parliament. Milk production is of such immense importance to a large body of farmers—it is, indeed, the one branch of farming that remains unassailed to any appreciable extent by foreign competition—that needless interference by the Local Government Board would be energetically resisted. Certain regulations as to the air space in cow sheds, the cleansing of the buildings, grooming of the cows, and inspection for tuberculous udders are regarded as reasonable, if not inevitable, but it is necessary that there should be discrimination in accordance with the locality and situation of the homestead, and that due regard should be paid to other governing natural conditions. Rigid standard regulations may mean hardship as well as unnecessary inconvenience. For example, a cubic area that would be appropriate in urban districts might be impracticable in the country. When local authorities were entrusted with the supervision of cow sheds a good many years ago, the same cubic area standard was established for all districts, with the result that in the colder climate of the north farmers found difficulty in keeping their cows comfortable in the winter time owing to the amount of room they were required to provide.

Another important question is compensation to owners of cows slaughtered in the public interest. Farmers are willing that a distinction should be made between animals visibly affected and those apparently healthy, but their demand for full compensation for the latter—not out of the rates, but from the national exchequer—is fair and reasonable.—*The Times.*

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
Gt. BRITAIN. Week ended Jan. 18		23	25			18	72			55	24	76
Corresponding week in	1907 ..	26	30			29	43			39	26	82
	1906 ..	20	25			24	43			22	21	70
	1905 ..	19	27			26	47			59	6	33
Total for 3 weeks, 1908		70	87			46	164			152	103	396
Corresponding period in	1907 ..	56	75			60	100			109	107	433
	1906 ..	48	59			83	139			73	55	223
	1905 ..	65	118			79	129			165	39	128
Board of Agriculture and Fisheries, Jan. 21, 1908.												
IRELAND. Week ended Jan. 11		1	1	..	..	..	..	..	..	15	2	28
Corresponding Week in	1907 ..	..	..	..	..	..	..	..	..	13	5	11
	1906 ..	..	..	..	..	..	..	..	..	10	..	..
	1905 ..	..	..	..	..	..	..	..	..	18	2	1
Total for 2 weeks, 1908		1	1	..	..	..	..	..	..	34	4	54
Corresponding period in	1907 ..	..	..	..	..	..	..	..	..	25	8	33
	1906 ..	..	..	..	..	2	..	..	..	28	..	..
	1905 ..	..	..	..	..	1	1	..	..	43	3	2

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 16, 1908.

Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

PROFESSOR KOCH ON SLEEPING SICKNESS.

Professor Koch, the eminent German bacteriologist, who has just left London on his return to Berlin, has given some interesting information to a representative of Reuter's Agency. From August, 1906, until October, Professor Koch was engaged in carrying out sleeping sickness investigations on the Sesse Islands, in the Victoria Nyanza. The work was of a particularly arduous character, the disease on these particular islands being of the most virulent type. Dr. Koch and his assistants lived in tents and established their camp at a point on the islands where there were no flies. Natives, dead or dying of the scourge, were to be found on all sides.

"We are now working," says Professor Koch, "at the full report of my recent studies. The mortality is smaller now because the population is dying out. The Commissioner of Uganda says in one of his reports that, whereas there were at first 300,000 persons living in the fly area, there are at present only about 100,000. This is a significant fact. My personal opinion is that patients in the first stage of sleeping sickness—freshly infected cases—have been cured by atoxyl. During my work on the Sesse Islands I had many fresh cases in my hands. Many looked as if they were cured, but possibly there are some cases in which the disease has not been quite overcome. I know that there are some authorities who say that atoxyl will not affect a cure, but I believe their views are based on the results of cases which have been treated too late. Atoxyl is a very valuable remedy. Of course, I have never claimed that it is infallible, but I do say that very much good will be occasioned by its use in the first stage of the disease, and I go further and repeat that I believe in the first stage it can be cured by atoxyl. In the case of late stages good results will not be obtained. Atoxyl not only does what is claimed for it—namely, to free the blood temporarily from trypanosomata; it also cures. It is possible we may find a better remedy, and certainly we are always looking for it.

The suggestion arising from my investigations that the sleeping sickness fly lives almost solely on the blood of crocodiles is only a secondary one. My investigations showed that the tsetse fly feeds especially, if not always, upon crocodiles. I found in the stomachs of these flies crocodile's blood, and therefore concluded that the insects live on crocodiles. As bearing on this I may refer to valuable experiments which were made in the Transvaal and Natal with regard to the tsetse fly, which has caused such great loss among cattle and horses. The Boers say, and it was everywhere confirmed, that the tsetse fly sucks the blood of big game. When the big game was destroyed the fly disappeared, and the disease disappeared too. There is nearly the same condition of things in regard to the tsetse fly and sleeping sickness fly. If we can destroy the crododiles the fly will disappear. To carry this out is not difficult. In fact, it is a comparatively easy matter. If the eggs are destroyed we shall extinguish the species. Crocodiles deposit their eggs in well-known places. Every native knows where to find the nests. We found in every nest from 60 to 70 eggs, and my opinion is that by the destruction of these the fly must become less and less.

One of the great difficulties with regard to dealing with the sleeping sickness natives is the extreme apathy they show. The natives will not believe in the fly infection, and when told of it often merely reply that they have been bitten on many occasions without contracting the disease. In dealing with sleeping sickness the first thing is to take all the infected natives and isolate them. This is a very difficult matter, but it must be done. The plan of establishing segregation camps is being carried out, but the time for which they have been in operation is too short to give any definite opinion on their result. It is, however, a most important measure, the work of which is only really beginning. I do not know of any case of spontaneous recovery from sleeping sickness. If left to himself every human being attacked by it must die."

With regard to the recent reports of cases of sleeping sickness having spread to Rhodesia, Dr. Koch said there was no chance of the disease spreading to Rhodesia, because the specific sleeping sickness fly—Glossina Palpalis—does not exist in Rhodesia. He did not know whether he would go out again to Africa, but he had two assistants still working in the Bukoba district, two in Tanganyika, and two at Sherati, on the east shore of Lake Victoria.—*The Times.*

THE CONVEYANCE OF WHOOPING-COUGH FROM MAN TO ANIMALS BY DIRECT EXPERIMENT.

By HUGH A. MACEWEN, M.B., CH.B., D.P.H.Lond. and Camb., late Resident Assistant Physician, Belvidere Fever Hospital, Glasgow.

The etiology of whooping-cough has been the object of much research, and many and various have been the theories advanced on the subject. Of late years, however, the belief has been gaining ground that it is bacterial in origin.

Kopolic, by making cultures from the sputum on solidified hydrocele fluid, obtained pure growths of a small bacillus with rounded ends which he claimed to be the specific organism, Jochmann and Krause discovered a small bacillus with rounded ends, very similar to the organism described by Eppendorf as the *Bacillus pertussis*. Vincenzi also claims to have isolated a bacillus which much resembles or is identical with that of Eppendorf. Mayennis, on the other hand, believes that the disease is due to a bacillus which finds a nidus on the Schneiderian membrane of the nose. None of these observers have, however, been able to prove that the organisms isolated by them are the true cause of the disease, and thus its precise etiology still remains obscure.

With the object of trying to throw light on certain aspects of this question, feeding experiments on animals were instituted, and it is for the purpose of calling attention to one of these experiments, performed in Belvidere Hospital, Glasgow, that the present article is written.

A full-grown and in every way healthy cat was placed in confinement in a building far removed from the wards in which whooping-cough patients were isolated. Sputum and vomited material were then collected from selected cases of typical whooping-cough without broncho-pneumonia or other complications. These substances were mixed with milk and administered to the cat, which took to the new diet with a fair degree of relish. For seven days this emulsion of sputum, vomited material, and milk formed the animal's sole source of nutriment. At the end of that time it was put upon ordinary milk once more.

After about fourteen to seventeen days, it was noted that the cat was getting into a languid condition; it lay at the back of its cage, and took little note of what went on around it. It had little appetite; when milk was placed before it, it would lap a little without any of the zest which characterised its attitude towards food at the commencement of its confinement.

About a month after the beginning of the experiment it was noted that the animal had a chokey cough, which was always followed by vomiting. Some time later it

developed a spasmodic cough, accompanied by a well-marked whoop, which even persons unacquainted with the nature of the experiment at once pronounced to be whooping-cough. When these spasms came on, the animal, rising and clinging to the bottom of the cage with its claws, coughed and whooped in a manner which left no doubt as to the nature of its complaint.

The conclusions to be drawn from the above experiment would seem to be :

1. That whooping-cough is beyond doubt an infectious disease.
2. That the specific virus is contained in the sputum or vomited material or both.
3. That infection may take place either during the process of swallowing or by ingestion of the infective agent.
4. That cats are susceptible to whooping-cough, and may therefore occasionally be the means of disseminating the disease.—*British Medical Journal.*

STERILISATION OF MILK BY BUDDEIZATION

A meeting of the Edinburgh Medico-Chirurgical Society was held on Dec. 4th, Dr. James Ritchie, the President, being in the chair.

Dr. W. G. Aitchison Robertson gave a demonstration of the Sterilisation of Milk by Buddeization. He said that two years ago he had communicated to the Society a paper on the Milk-supply of the City of Edinburgh in which he had indicated certain directions in which it might be improved. The communication had evoked much interest amongst the members of the profession, but, unfortunately, the condition of the milk-supply remained unchanged. The insanitary conditions of the cowsheds remained as before. Complaints from consumers as to the dirtiness of the milk were constantly being made. Deposits of hair, mud, excrement, etc., might be found in many samples of milk and much worse had come under his observation, as the clippings of dirty finger-nails, fragments of tobacco, etc. Dr. Robertson was glad to be able to say that tuberculosis was apparently not so common in the cowsheds of Edinburgh as it was elsewhere in the country. The veterinary inspector of dairy cows, Mr. James Riddock, M.R.C.V.S., had stated in his report that during the year 1906 he had ordered out 46 cows ; 37 of these were tuberculous and in nine the udder was invaded and tubercle bacilli were present in the milk. During the current year 41 cows were ordered out ; 27 of these were tuberculous and in five the udder was diseased and the milk contained tubercle bacilli. The tuberculin test was not applied to any of the city cows. Sterilisation of milk by boiling had the disadvantage that the constituents of the milk underwent a marked change and though Dr. Robertson did not believe that it produced scurvy-rickets (Barlow's disease) in children by itself, yet partial sterilisation obtained by heating the milk to a temperature not exceeding 140 F. for 20 minutes was to be preferred. Either method was, however, troublesome and did not free the milk from extraneous matters. Infants obtained germ-free milk from the mothers' breast and he showed a Petri dish containing gelatin agar to which human milk had been added and which had remained sterile during ten days. As a contrast another culture containing cow's milk as delivered in Edinburgh three days ago gave a count of 565,000 bacteria per cubic centimetre—a fair average for clear new milk being 30,000. A sample of the same milk pasteurised for 20 minutes furnished no growth within three days, showing that the ordinary dairy organisms had been destroyed. In his former paper Dr. Robertson had suggested that instead of making it a penal offence to add preservatives to milk it would be advisable that the authorities should allow the addition of the minimal amounts of harmless antiseptics to milk, arguing that it would be better to run the slight risks of their injurious action (if, indeed they had any) rather than the undoubted risks which result from the use of such a putrescent fluid as ordinary dirty milk. He did not share the belief that antiseptics, such as boric acid or formaldehyde, if used in minimal amounts, exerted any deleterious action on the animal economy. Happily, however, another agent had been applied to the purification and preservation of milk. This was nascent oxygen as evolved from peroxide of hydrogen in contact with milk at a suitable and optimum temperature. It would be difficult to raise objections to an agent so easily decomposed into harmless components. The addition of peroxide of hydrogen had been worked out scientifically as well as practically by Dr. Budde of Copenhagen. The milk besides being rendered germ-free was cleaned and free from blood, mucus, and extraneous matter.

Dr. C. Budde said he would describe briefly the scheme by which he proposed to solve the difficulty of destroying germs in milk. The milk should be brought in from the various cowsheds to a central place immediately after milking. Cooling was a dangerous thing if it was carried too far, because it destroyed the natural anti-bacterial qualities of milk. Cooling to ordinary water-temperature was to be recommended if the milk could not be dealt with at once. Immediately after arrival the milk should be passed through a heater, where it was heated to 50 C. (122 F.) and from there through a centifugal cleaning-machine of the same construction as a separator, but with only one outlet so as not to separate the cream from the milk. This machine not only removed all particles of dirt in a far more effective way than a filter, but it also removed many bacteria adhering to the particles of dirt and to the minute motes of the tissues of the cow which were always present in milk. The bacilli thus adhering to different particles had been experimentally proved to be the most resistant, which fact seemed to be a mere question of mechanical protection. It was very likely that, for instance, natural tuberculous milk in which disintegrated udder-tissue was abundant was far more difficult to sterilise than milk to which cultures of bacillus tuberculosis had been added. It was a well-known fact that the natural tuberculous milk could not even be satisfactorily sterilised by boiling. Dr. Budde therefore considered the centrifugal machine to be a very important part of any milk treatment. After the milk had passed through the machine the dirt, etc., from the milk might be seen adhering to the inside of the bowl. After this the milk should be passed into a vat provided with a water-jacket, the temperature of which could be raised and maintained by the introduction of steam. As soon as the milk had got into the vat, or immediately before, it should be mixed with a little peroxide of hydrogen. That in small quantities was a perfectly harmless substance. Every living cell contained an enzyme, isolated for the first time by Oscar Loew at Washington (1901) and by him named "catalase." Its characteristic quality was its power to decompose hydrogen peroxide into water and oxygen, and its presence everywhere excluded the possibility of hydrogen peroxide ever being found in a living cell. Consequently hydrogen peroxide, in contradistinction to all other antiseptics, could not be absorbed by the organism, but was invariably decomposed before it got through the walls of the intestinal canal. The harmlessness of hydrogen peroxide taken by the mouth had also been established by numberless experiments. The milk (often described as a "fluid tissue") also contained a certain amount of catalase. The proportion of this enzyme in milk might be estimated to something like 0·000001 per cent. When hydrogen peroxide was added to milk at about 50 C. (122 F.) it was able to decompose

about 0·035 per cent. H_2O_2. The hydrogen peroxide possessed in itself a strong germicidal power, according to Valdemar Bie so strong that 1000 bacteria could be destroyed by 0·0000000084 gramme H_2O_2. But the milk catalase caused a still stronger bactericidal action to take place which arose from the formation of oxygen in statu nascendi (monoatomic oxygen) and which Dr. Budde had named the secondary germicidal action of hydrogen peroxide. He proved the existence of this secondary effect by comparing the action of hydrogen peroxide with that of any other disinfectant and thereby found that all other antiseptics kept the milk fresh for a longer time at ordinary than at a slightly elevated temperature, whereas the reverse was the case with hydrogen peroxide. He proposed to heat the milk to 50° C. (122° F.) because he found that this temperature was the optimum for the secondary effect and it was not high enough to alter the qualities of the milk. Prof. E. von Behring, on the speaker's request, kindly investigated this question and established the correctness of Dr. Budde's results. The vat in which the milk was mixed with hydrogen peroxide was preferably made of glazed earthenware or tinned copper, so that its inner surface was perfectly smooth. It was provided with a mechanical stirring arrangement which was worked now and then in order to create and to maintain a homogeneous mixture. The milk was kept in this vat at the same temperature for three hours, after which it was filled through sterilised tubes into sterilised bottles. The milk should, of course, be instantaneously cooled, which might be done either before or after the bottling. Dr. Budde was able to prove that the amount of H_2O_2 which the milk was able to decompose was also sufficient to bring about complete sterilisation. But the presence of catalase was not absolutely uniform. The safest course was, therefore, to add so much peroxide of hydrogen that there was certain to be a trace left at the end of the process. Then immediately before the bottling a few drops of a catalase solution were added. Dr. Budde said that H_2O_2 had the great advantage that (according to Sieber and Loewenstein) it destroyed toxins but left antitoxins quite unaffected. In, for instance, a neutral mixture of diphtheria toxin and antitoxin, the latter might be set free by the addition of hydrogen peroxide. Further, the presence of H_2O_2 in milk was very easily detected by the potassium-iodide-cum-starch test, by which a quantity as low as 0·0002 per cent. H_2O_2 was sure to be found Milk after having been subjected to the foregoing treatment possessed the following qualities. None of the component parts of raw milk were in any way altered. The milk was practically sterile and most especially so in regard to the specific pathogenic micro-organisms. The milk was able to be kept considerably longer than ordinary milk, but notwithstanding this fact it should, of course, like all milk, be consumed as fresh as possible. The milk was absolutely free from foreign substances. As for the milk enzymes, the tryptic and peptic proteases and the lipases were unimpaired. The oxydases were destroyed, but seeing that these did not occur in human milk this was generally considered of no importance. The catalase was destroyed. On the other hand, oxydases nearly always accompanied catalase, so that by the final addition of a little catalase both these classes of enzymes were restored to the milk. The nutritive qualities were unaltered and numerous cases had been recorded by medical men in which people (both infants and grown-up people) had been doing very badly on raw or cooked (Pasteurised and sterilised) milk whereas milk thus treated had agreed very well with them. The taste and flavour of the milk were practically unaltered.

Further special experiments on natural tuberculous milk had been conducted by Professor Joseph Svensson (Royal Veterinary Institute, Stockholm), Dr. P. H. Santesson (Stockholm), Dr. Ernst Petersson (Agricultural Institute, Ultuna, Sweden), and Dr. Begtrup Hassen (Silkeborg, Denmark), the last on request of the Danish National Antituberculosis Society. All of these scientific men declared unanimously that non-sporing organisms and the vegetative forms of sporogene bacilli were killed by the process. Regarding the spores there was some difference of opinion, which could in most, if not at all, cases be traced back to some defect in the method used. He was confident that the method in its present shape killed even spores with certainty. Clinical experiments had been conducted by a large number of medical men, mostly Danish and Swedish. Any bad influence of the treated milk had never been observed but it had often been found to be better and more easily absorbed than ordinary milk. The treated milk seemed to be of therapeutic value in the case of certain diseases, as, for instance, typhoid fever, achylia gastrica, etc. Dr. Baumann had proved that pepsin and hydrochloric acid acted considerably more quickly on this milk than on ordinary milk. The superiority of such milk to heated milk as a food for infants had been proved by many Scandinavian medical men and recently by Dr. W. Robertson of Leith. The superiority of milk treated by Dr. Budde's method to Pasteurised milk as a food for calves and pigs had been proved by Mr. R. v. Toll, agricultural expert of the Swedish State. The method now described was in use to a large and increasing extent in Denmark and he was glad to say that it had been taken up by a Scottish company which had agreed to bear the considerably enhanced expenses of a really hygienic milk-supply without raising the sale price. It was evident that the problem of supplying large towns with pure milk could only be solved by big companies. The expenses of getting the best local milk, of watching the cow-stocks and the farmers, of keeping people with sufficient knowledge to take care of the milk, or procuring and running the necessary machinery for treating milk, washing and sterilising bottles, etc., could never be defrayed by small dairymen. Experience from other countries, as well as his personal experience from this country, had fully convinced him of this fact.—*The Lancet.*

TUBERCULOSIS EXHIBITION.

Address by E. Wallis Hoare, F.R.C.V.S.

The Cork Tuberculosis Exhibition, which served to awaken such a large amount of interest, was brought to a close on Saturday evening, January 11th. At half-past eight in the evening Mr. E. W. Hoare, F.R.C.V.S., delivered a lecture on tuberculosis in relation to the milk supply, with suggestions for an efficient system of dairy inspection. The chair was taken by Dr. W. Ashley Cummins, and there was a very large attendance. Mr. Hoare's lecture, which was very instructive, was followed with the keenest interest.

Mr. Hoare, who was cordially received, then delivered his lecture, in the course of which he said the subject which he wished to bring before the notice of the audience was tuberculosis in relation to the milk supply, and suggestions with reference to the efficient inspection of dairies. From the lectures which had been delivered during the past two weeks they would have very probably heard of the measures to be adopted for the prevention of the disease. Amongst the means of prevention there were none of greater importance than those which referred to the transmission of the disease from animals to man. The lecturer then dealt with the connection there was between the milk of cows and tuberculosis in man. That was the first point that required explanation. A very serious and unsuspected source of tuberculosis was milk, and the municipal authorities, in not making efforts to procure a pure supply of milk, were omitting a very important part of their duties. Mr.

Hoare next proceeded to explain how tuberculosis comes on. A dairy could prove a veritable source of infection. As they knew, the milk of cows was very extensively used as food, and in the cases of young children it might be regarded as the chief portion of their diet. Milk carried the germs of the disease very readily. Milk was generally given in the raw state, and if it contained the bacilli of tuberculosis these were transmitted to man, especially to children. The chief cause of tubercular bacilli in milk was that the cow suffered from tuberculosis of the udder. It was stated that amongst tuberculous cows two to five per cent. of them were affected in the udders. If the udder was free from disease, it was stated, there was little fear of infection, but that opinion was not shared by the ordinary authorities. Having dealt fully with the manner in which the disease was transmitted to man from various standpoints, he said in Glasgow all dairy cows were examined at stated periods, and cows suffering from generalised tuberculosis were put out of the dairy, for there was an enormous amount of bacilli distributed by one dairy cow.

To have a pure supply of milk under the present circumstances they should either have to sterilise or Pasteurise the milk. As regards boiling, there were several objections, amongst them being the fact that the constituents of the milk underwent a marked change through boiling which interfered with its nutritive properties, the flavour became distasteful to many, and extra trouble was imposed. Under the present circumstances, however, he should strongly advise boiling the milk. Pasteurisation was too expensive to be carried out by the majority of people. The only practical move to ensure a pure milk supply was by legislation, registering each dairy and providing for the examination of dairy cows at stated periods. They should attack the source of the evil and wipe it out by removing the tuberculous cows from the dairy. The authorities should have power to slaughter all cows which presented symptoms of disease, whether the udder was affected or otherwise. Until such powers were given by law they could not exterminate the disease from dairy cows to safeguard the public. Dairy inspection should be carried out in every district in the country, for the people in the country required as much protection as those in the city.

The restriction should be general. Some urged the necessity of using the tuberculin test in all cows supplying milk. It was likely that matter would be taken up by the State and a system of compensation introduced, and until such powers were given to local authorities the disease could not be effectively exterminated. A cow with the diseases localised should be slaughtered under the supervision of the veterinary inspector, and the meat would be fit for food. The tuberculin test was thoroughly reliable. Before any animal was allowed to enter South or North America or Australia certificates of having undergone the tuberculin test should be produced, and also on arrival at their port. The inspection of dairies included more than the inspection of cows, for efficient inspection would include proper hygiene, cleansing of cowsheds, the dairy and utensils, etc. Disease was very often spread amongst cows by one of a flock affected by tuberculosis. When this cow coughed the tubercular bacilli was discharged in fine sprays either into the food or on the field, and when cows not affected were fed from the same vessel or grazed on the same field they took in the bacilli.

The only guarantee the honest, conscientious dairy farmer had in buying a cow was the tuberculin test. He did not know any other means by which the dairy farmer could add to his stock. The farmers of Ireland wanted technical education in the principles of sanitary science and hygiene. Tuberculosis ought to be scheduled under the Contagious Diseases of Animals Act. The farmers could not be expected to take upon themselves the ridding from the country of this disease. There was very little done for the Irish farmers by the Government or for science of any kind.

Having referred to the good results which followed the inspection of dairies of Liverpool, he said he trusted one and all of them would do all in their power to protect themselves and families from tuberculosis. They had a perfect right to demand from those in authority a similar measure for procuring a pure milk supply to those that existed in every civilised city in the world. All inspectorships of dairies should be filled by qualified veterinary inspectors. An unqualified man could not possibly diagnose the disease. Yet that was what was done by the Cork District Council a few days ago. If the duties were purely mechanical one could understand such a suggestion, but when they included the detection and diagnosis of an obscure and insidious disease, then, indeed, they would recognise that a man with scientific training and clinical training was absolutely essential, and they should have supreme control of the inspection of dairies in the district. If the system he had advocated was practicable in cities like Dublin and Belfast, there was no logical reason why it should not be carried out in Cork. He believed that efficient dairy inspection would be to the farmers' advantage. Tuberculous cows were of no value, and a source of infection to other cattle as well as to human beings. When farmers became properly educated in the principles of prevention and hygiene, and when the State recognised its duty by taking effective steps to stamp out tuberculosis in cattle, then, indeed, might they look forward to one great source of the disease being removed from mankind, and to a healthier, happier, and more prosperous era for Ireland. (Applause.)—*The Cork Examiner.*

Blackleg.

Extracts from correspondence in *The Farmer' Gazette*:

Sir,—The way this disease is treated in this part of the country is to get a goat's skin and cut it in strips, then steep it for twelve hours in turpentine and mirterra mirga, cut a hole in the calf's ear and put a strip into it, and let it remain there.—Yours etc.,

SUBSCRIBER.

Co. Tipperary, Dec. 24, 1907.

Sir,—I tried for some years all the usual setons and doses usually given for this complaint, and still lost on an average three beasts in the year. About five years ago I commenced to inoculate with Parke, Davis, and Co's Blacklegoids, and since then I have lost only one, and that was this year, out of over 900 inoculated since I commenced. Several other people about here have tried them with like result, only a very rare case getting blackleg after treatment. I may mention that I have no interest in Parke Davis and Co's preparations.—Yours, etc.,

ALPHA.

Co. Kilkenny, Dec. 28, 1907.

Sir,—I can assure "Subscriber" Co. Cavan, that a copper ring in a bull's nose is not a preventive of blackleg. I have had experience of this on more than one occasion.

I have all my stock under two years old vaccinated with Pasteur's "Blacklegine"—cord form—once in twelve months; my losses since I began using it have been *nil*. Messrs. C. H. Huish and Co., 12 Red Lion Square, London, S.W., agents for Great Britain, issue a useful leaflet on the sublect.—Yours, etc.,

J. ROBT. ELY.

Ballaghmon Castle, Roscrea, Dec. 30, 1907.

Sir,—Referring to correspondence on above, I beg to give my experience of it. For over twenty years there has not not been a case on this land until this year. I gave this year's calves a drench which was recommended at Boyd's, Mary Street, which cost 6d per calf, and which they considered as good as Blacklegoids.

I can recollect when the young cattle used to be bled and drenched with garlic in the months of April or May, but, of course, this is long out of vogue. I have heard of various preventives—one amongst the number, viz., to hang a leg of the affected animal in the chimney, but I fail to see what effect this could have.—Yours, etc.,

BEEF.

Co. Kildare, Dec. 27., 1907.

Sir,—Seeing a request in *The Farmers' Gazette* for information *re* prevention of blackleg, I venture to give my experience. I own a farm in Co. Dublin on which cattle died from blackleg about every year before I became owner of it. I had some experience of blackleg in Western Canada, and from what I learned there I decided to try the same methods here, viz., to vaccinate all calves with Messrs. Parke Davis' Blacklegoids. I have never had or seen a case of blackleg after this method has been adopted, although I do not claim that it is infallible, but I do claim that cattle which have been vaccinated have ninety per cent. a better chance of escape. The directions for use are sold with Blacklegoids, and are so simple that a child could carry them out.

Inoculation, in my opinion, is the only preventive for blackleg which is based on common sense principles, and is the means recommended by those who have made this disease the subject of the latest research. Messrs. Boileau and Boyd, of Bride Street, Dublin, supply a very useful pamphlet about Blacklegoids.—Yours, etc.,

SUBSCRIBER.

Co. Dublin, Dec. 30, 1907.

Sir,—My experience of inoculating calves for blackleg is as follows:—In 1906 my V.S. inoculated thirteen calves with "Pasteur's Blacklegine cord form," and I lost one in about two months afterwards. This year the same V.S. inoculated eighteen calves with Parke, Davis, and Co.'s Blacklegoids. My losses, so far, are three: one died eight days after being inoculated—the youngest and thinnest of the lot—another died in six weeks, and the third in ten weeks, all from blackleg. Years previous to inoculating I never lost a calf from blackleg. I do not believe in any other preventive of this complaint. Is it not surprising that the vaccine is not manufactured in the United Kingdom? Surely our veterinary colleges and laboratories ought to do something in that line. I need not tell you that farmers would have more confidence in the home made article. Being a blood disease, or rather a disease caused by a germ that gets into the blood, would it not be possible for V.S. to discover some neutralising agent to be injected into the animals to counteract the deadly effect of the germ. Look at the highly satisfactory treatment of milk fever now-a-days.—Yours, &c.,

BRIDE VALLEY

Co. Waterford, Jan. 8.

The Farmers' Gazette.

[These letters have a special interest for veterinary practitioners.—ED.]

The Victorian Minister of Agriculture stated in the Legislative Assembly recently that a Bill would be introduced shortly providing for the establishment of municipal sheep dips where necessary, so that there could be an effective general system of sheep dipping throughout the State.—*M.T.J.*

Veterinary Inspection and the Clydesdale Stud Book.

The Clydesdale Horse Society Council has now settled the terms of competition for the fourth Cawdor Cup for stallions. This cup will be competed for at the forthcoming Stallion Show on the first Wednesday in February. It will not be so easily won as the three preceding cups have been. It must be won four times by an exhibitor with different animals before it becomes his absolute property. No horse whose name is already on a Cawdor Cup will be allowed to compete for this cup. All horses competing for this cup must pass an examination for soundness by the veterinary surgeon appointed to examine horses competing for the Brydon Challenge Shield. This does not apply to height, only to soundness. No horse rising four years old will be allowed to compete for this cup unless it is proved to the satisfaction of a committee, appointed by the Council for the purpose, to have left at least 35 per cent. of foals in the preceding season. The Committee appointed for this purpose this year consists of Mr. J. Ernest Kerr (convener), Principal M'Call, and Mr. James Rodger, with the Secretary. All questions that may arise in connection with Cawdor Cup competitions in 1908 are referred to this Committee. Of course, all horses competing for the Cawdor Cup must be registered in the Stud Book.

Veterinary inspection for horses competing for the Cawdor Cup was carried unanimously at the meeting of Council of the Clydesdale Horse Society on Wednesday, 8th inst. This is tantamount to a revolution in the Scots showyards. It scarcely admits of doubt that the example thus set will, sooner or later, be followed by all the principal shows in Scotland. The credit for the revolution must be placed at the door of Mr. Brydon. Had he not made it a condition of the competition for his challenge shield that all horses must be "vetted," the anomaly of the Stud Book Society's position would not have been made patent. But the logic of the position put before the Council by the small committee on Wednesday was irresistible. Mr. Kerr and Principal McCall did not recommend that all horses competing for the Cawdor Cup should pass a veterinary test. They directed attention to the facts, and asked the Council to consider them. A horse not submitted, for valid reasons, to the veterinary test required by the conditions of the Brydon shield, easily won the third Cawdor Cup, to which no veterinary test was applied. Thus the Breed Society's trophy went to a horse which was openly withheld from the veterinary test. The Council instinctively felt that such an incident could not be repeated.—*The Scottish Farmer.*

[This is something quite new in Scotland. Veterinary inspection! One wonders how it was never discovered before that ringbones and sidebones and shivering are hereditary.—ED.]

Horse Breeding in Queensland.

Mr. E. G. E. Scriven, Under Secretary of the Queensland Department of Agriculture and Stock, draws attention to the measures proposed to be taken in the Colony to improve the breeding of horses. A stallion tax has been proposed, but it is considered more desirable to subject all stallions offered for public uses to strict veterinary examination, which, if successful, would be accompanied by the issue of certificates No Government grant to be given to any agricultural society that awards a prize to an uncertified stallion. The export of mares to be prohibited for ten years: premiums to be granted to the best horses: and stud farms to be established. These proposals are set out in the annual report of the Department, recently received in London by Sir Horace Tozer, Agent-General.—*L.S.J.*

SIR E. STRACHEY ON SWINE FEVER.

Sir EDWARD STRACHEY, M.P., the representative of the Board of Agriculture in the House of Commons, spoke at an agricultural dinner at Farrington Gurney, Somerset, January 13th.

Sir E. Strachey said that swine fever increased and decreased according to the strictness or laxity of the regulations of the movement and sale of pigs. Taking the last four years, there had been in :—

	Outbreaks.	Swine slaughtered.
1904	1,188	5,566
1905	817	3,876
1906	1,280	7,359
1907	2,336	11,275

The disease had fluctuated in the last four years, but in the last two years had shown a very serious increase. Where drastic measures had been resorted to, as in the case of Somerset last year, there was a decline of outbreaks, and the Somerset local authorities were confident of suppressing swine fever, but only if the Board allowed them to keep markets still closed. Up to now no President of the Board of Agriculture had solved the question or really attempted to grapple with it, and they had only employed palliative measures, with the result of no permanent good and at great cost. For the last financial year the total cost was £51,497, and for the nine months of the present financial year the cost was £53,810, but the figures were all the more remarkable, seeing that the administrative expenditure was the greater part of the two sums he had given. Thus in 1906-7 the compensation was £13,455, while the administration was £39,875, and for the nine months of the present financial year the compensation was £14,658 and the administration was £40,834. Heavy expenditure, rising and falling, of course, during many years, had not resulted in stamping out swine fever. They must begin the consideration of this matter *de novo*. He had suggested this a year ago at an agricultural dinner at York, and had advised the farmers to take this question up and ask for the appointment of a departmental committee of the Board of Agriculture, for they could not expect it to be appointed unless it was asked for by agriculturists. In the north they had neglected to do so, and now he asked the farmers of Somerset, who had lately suffered so much, why they did not ask for such an inquiry through the Central Chamber of Agriculture, which body, while protesting against the neglect of succeeding Governments, had not asked for such an inquiry. Or they might ask the Bath and West Agricultural Society to take it up. It was the only practical way of trying to solve a question which, he believed, might be solved by a searching inquiry.

Tuberculosis in Cattle.

At the usual monthly meeting of the Highland Society a letter was read from Mr. Bowen-Jones inviting the Society to appoint a representative to the Tuberculosis Committee, and also soliciting financial support. The Chairman reported that he and Mr. Duthie had attended the meeting of the Committee in London. The chairman of that Committee had rather acted as if the milk aspect of the question was the more important, but while admitting that the milk question was the more immediately pressing question, they would do their best to see that the meat question was kept to the front also. Mr. Duthie moved that Mr. Cross be appointed to represent the Society on the Committee. This was agreed to. It was also decided to see what other bodies were doing before deciding on the amount of financial support to be given.—*N.B.A.*

Worn-out Horse Trade—Successful Appeal.

Achille Van Hecks appealed against two convictions and a sentence of three months' imprisonment with hard labour in one case and a fine of £5 and 10s. costs in the other by Mr. Chapman, sitting at the Tower Bridge Police Court, on December 6, for cruelly ill-treating two horses on November 9, 1907. Dr. Lunge was for the appellant ; Mr. Bodkin and Mr. Symmons appeared for the Royal Society for the Prevention of Cruelty to Animals in support of the conviction. The horses in question were two of a number intended for exportation to be made into sausages abroad. On the afternoon of Nov. 9 last Inspector Rogers, of the R.S.P.C.A., was in Tower Bridge Road, when he saw eight broken-down horses being led along the Road, five of them, he alleged, being led by the appellant and three by another man. He said that as soon as the man leading the five horses saw him he ran away. He followed, and arrested the appellant. On examination it was found that one only of the horses was in a fit condition to be led along the road. Two bay mares were in a particularly bad state ; the hoof of one was nearly coming off, while the other was lame in both hind legs. For the appellant it was urged that inspector Rogers had arrested the wrong man, and that it was not the appellant who was in charge of the eight horses.

Achille Van Hecks said that he was a Belgian, and carried on the business of a nurseryman and fruiterer. He had bought horses for exportation, but never before June, 1907, and he did not intend to buy any more. He denied that he was leading the five horses as described by Inspector Rogers, and said that he had nothing to do with the eight horses spoken of. A number of witnesses were called to support his statement.

Mr. Wallace, in giving the decision of the Bench, said that as this was a rehearing of a criminal matter, and there was a doubt in the minds of the justices, the appellant would be given the benefit of that doubt. The appeal would be allowed, but without costs.—*The Times.*

Alleged Glanders in Racing Stables.

With reference to the correspondence published last month between Lord Stanley, the Board of Agriculture, and Colonel Hall-Walker, respecting the latter's statement at the Gimcrack Club dinner, concerning glanders in racing stables, Lord Stanley has issued the following letter :

"Knowsley, Prescot, Jan 7.

Sir,—Since the publication of correspondence that passed between myself and the Board of Agriculture on the subject of the remarks made at the Gimcrack Dinner by Colonel Hall Walker, I have written to the latter pressing him to get the veterinary surgeon whose opinion he quotes to disclose his name, in order that we may judge what importance to attach to his remarks.

Colonel Hall Walker has written to me to say that in answer to this request this veterinary surgeon has replied that it is difficult for him to appear in the matter, and therefore does not wish his name disclosed. There I shall leave the matter, but I venture to think that your readers will agree with me in placing more confidence in the authenticated returns of the Board of Trade than in the uncorroborated statement of a veterinary surgeon, who, however eminent, prefers to remain anonymous.—I am, sir, yours etc.,

STANLEY."

—*Daily Telegraph.*

Swine Fever in West Australia.

It is difficult to imagine anything more extraordinary than the present doings of the officers of the Stock Department, and it must be patent to anyone observant of the recent developments in that department with regard to swine fever and associated matters that there is some sub surface work going on that might explain the peculiar doings without, perhaps, justifying them. The existence of swine fever over a great part of the settled portions of the State is now well known, but the extent of the outbreak and the severity of its devastations are being carefully suppressed by the Minister controlling the department. It was hoped that when the chief inspector of stock returned from England this serious swine disease would be taken in hand, and definite plans for the safeguarding of the industry of pig-raising would be immediately instituted.

However, instead of anything of the sort having been done, Mr. Weir has been sent up to the North-West to investigate the surra outbreak among camels, a disease which the Minister of Agriculture states has been eradicated by the destruction of all the infected camels. It is anticipated that Mr. Weir will be away for at least two months. If there is no surra among the camels, why has the chief inspector of stock been sent away on a two months' tour of investigation when a vast area of our country has just been laid under quarantine regulations on account of swine fever? Even the late acting chief inspector has lost what authority he possessed, during the absence of the chief inspector, to deal with this disease effectively; and, with Mr. Weir away in the wilderness experimenting with obscure surra organisms on dogs, and with Mr. Burns, the other professionally qualified inspector, returned to his inspectorial duties at the Port, there is little prospect of any really useful thing being done to check the distribution of this accursed swine fever.

Why is so much being left undone that should be done immediately? There are many questions relating to this swine fever business that will be difficult to answer, but which are pretty likely to be answered before the matter drops. Mr. Mitchell has asked Mr. Jull, the Public Service Commissioner, to go through the files of the department and ascertain on whom the responsibility must rest for the delay in reporting the existence of swine fever.

It is probable Mr. Jull will find in the course of his investigation that the present condition of things is not due to any delay in reporting the existence of swine fever, but to the refusal of the head of the Stock Department to admit its existence after the matter was reported. Every meat inspector, every officer of the Central Board of Health, and most of the inspectors of the Stock Department, were aware six or eight months ago of the presence of swine fever in the State, and the matter was to our certain knowledge reported to the Minister for Agriculture at that time. Why steps for its suppression or control were not immediately initiated is no more easy to understand than why there is so much departmental heedlessness at the present time.

It is openly stated by those who have been in touch with the matter throughout that the Minister for Agriculture endorses the opinion of Stock Inspector Gibbons, who all through has maintained that the disease which was killing out the local piggeries was not swine fever but pneumonia. This inspector has been very definite in his contention, and not even the clear-cut evidence of bacteriologists like Drs. Blackburn and Cleland, or the professional opinion of Mr. Burns, V.S., or the trained judgment of qualified meat inspectors, made him shift from his position that swine fever did not exist in the State. If Mr. Mitchell accepted the conclusions of Mr. Gibbons in preference to scientific and professional evidence, he will doubtless be able to justify his action. Mr. Jull's report should be interesting reading if he is enabled to get at the true hang of affairs.

Swine Fever and Stock Diseases.

To the Editor of *The Herald*.

Sir,—I am sure *The Morning Herald* deserves credit for the exemplary stand it has taken in placing before its readers the truthful side of this most important question. It does appear to me very unwise and inconsistent on the part of many of our high officials to treat this question in such a slip-shod manner. It is a most serious question, affecting many of our hard-struggling settlers upon the land, and I say without the least fear of contradiction that it is the duty of not only the Minister, but also every public officer, to do his best to gather as much information in connection with his position, and supply it through the proper channel, so that same can be furnished to the settlers of this State through the only course (which we have to be thankful for, and which moulds public opinion—the press) so that those who may be uninitiated in regard to this question may gather the required information, so that they may join in the good work of trying to assist both the Government, fellow-settlers, and the press in checking and eradicating one of the greatest scourges the pig industry can have. I sincerely trust *The Herald* will not only battle away at the swine fever, but also other diseases, which are playing havoc with the stock in this State, such as the horse disease at Derby and surrounding parts, pleuro-pneumonia and tick fever at Wyndham, and last but not least, take a firm stand and do all that lies in the power of your widely-read paper in trying to get that most important and necessary Bill, namely, the Veterinary Bill, carried through both Houses, so that we can ensure getting qualified veterinary surgeons, whose opinion on such questions as the diseases of stock would be beyond question, which would be of so much benefit to this young State. I am prepared to prove to you by facts that, immediately the Veterinary Bill becomes law, we shall have some very able representatives from some of the oldest and best Veterinary Colleges in the world giving Western Australia a trial, but whilst every Jack, Tom, and Harry can call himself a vet. there is no inducement for good men.—I am, etc.,

Titus Lander.

Perth, December 16.

Greenock Milk Supply—Power for Seizing Diseased Cows.

A feeling of uneasiness has been created in Greenock by the seizure in a local byre of a cow which on examination was found to be badly affected with tuberculosis, and which had to be slaughtered by order of the Public Health Authority. The milk given by the animal showed the presence of tuberculous bacilli, and the authorities therefore are resolved to give every encouragement to Mr. Peter M'Intyre, the burgh veterinary surgeon, in his endeavour to ensure a pure milk supply for the town. He will continue not only to inspect byres and cows, but to get bacteriological tests made of the milk given by suspected animals. The power of the Public Health Authority does not extend beyond the burgh, but as a large portion of the milk supply comes from farms in the country, there is a desire on the part of the Corporation to get powers under their new Provisional Order which will not only enable them to stop the supply from any animal known to be affected with disease, but will also give them the right to seize the animal and destroy it, as they can do at present within their own burgh. The Public Health Committee have decided to urge this step on the Corporation.—*The Scotsman.*

Fucus Vesiculosus.

Fucus vesiculosus is the common seaweed of the English coasts. There are two recognised preparations of it, the Extractum Fuci and the Extractum Fuci Liquidum. The former may be given doses in from 3 to 10 grains, usually in pill form, massed with powdered liquorice or marshmallow root. The liquid extract is given as a mixture, in doses of from 1 to 2 drachms.

The taste of this preparation is very nauseous, but it is somewhat masked either by liquid extract of liquorice or by syrup of lemon, the mixture being made up with chloroform water in either case.

The one purpose for which Fucus Vesiculosus is used in medicine is for the reduction of fatness. It is always very difficult, however, to be sure how much action the drug itself exerts. Many observers have reported upon it as being of little use. It is probable that no official amount of fucus would reduce adiposity if the diet was not strictly limited at the same time; but in the case below, fearing that fat-reducing drugs might do harm, restricted diet was tried for a long time by itself.

[The case of a man who weighed nearly 20 stones is given. The summary of the case is briefly this:

1. Rigidly restricted diet: very slow reduction in fat.
2. Rigidly restricted diet *plus* administration of fucus: very much more rapid reduction in weight without detriment to the general health.]—*The Hospital.*

Veterinary Schools in Europe.

The following list is given by Prof. Liautard in *The American Veterinary Review*, and shows the number of registered students in 1905.

Kasan		582	Naples		200
Kharkow		504	Lyons	(1762)	180
Berlin	(1790)	482	Toulouse		177
Budapest	(1786)	413	Bruxelles		153
Vienna	(1777)	377	Milan	(1791)	158
Copenhagen	(1773)	370	Utrecht		113
Madrid	(1793)	345	Leon		100
Munich	(1790)	319	Stuttgart		100
Dorpat		310	Turino		90
Alfort	(1765)	292	Cordoue		75
Saragosse		275	Stockholm		55
Hanover	(1778)	251	Bucharest		52
London	(1791)	230	Lemberg		47
Dresden	(1774)	202			

And in this list are not mentioned the other four British Schools at Liverpool, Edinburgh, Glasgow, and Dublin. Likewise are missing the records of the schools of Berne, Zurich, Pisa, Bologna, and several others.

The figures in parenthesis are the dates of the founding of the schools, and are given by Prof. Pierre A. Fish, who adds:—"Although earlier attempts may have occurred, the first successful establishment of a Veterinary School in America was that of the New York College of Veterinary Surgeons, which was Chartered in 1857. The Ontario Veterinary College at Toronto, Canada, was established in 1862 and the American Veterinary College in 1875."

Veterinary Duties.

A Department of Agriculture will also have wide and important veterinary duties. These duties include not simply inspection and reporting on outbreaks of disease among live stock, but also the carrying out of investigations with the object of prevention and remedy. At the same time reference must be made here to an aspect of the question of a Department of Agriculture for Scotland to which considerable attention has been given. It is feared in certain quarters that, if the admistration of the Diseases of Animals Act is separated in England and Scotland, regulations may be passed in England which would he unduly prejudicial to Scotch interests. Well, in the first place, there has been a separate administration in Ireland, and no such reprisals have taken place. The British and Irish Boards work in harmony with one another, and there is no reason to believe that there would not be a common policy followed in all three kingdoms. Further, I do not believe for one moment that the English Board would be influenced by the fact of a separate Scotch Board being established to take any undue action which would be prejudicial to Scotch interests, and it would be the duty of the Scotch Department to see that every step was taken in Scotland to secure the health of the live stock of the country. Furthermore, it will be remembered that while there is decentralisation as regards local matters, there still remains a common Government which ensures uuity in matters of general policy. The danger, therefore, from this source is not, we believe, real, and the stock-owners of the country should rather find that in a Department of Agriculture for Scotland they had a representative who would see that their interests received full and fair consideration.—*N. B. A.*

The Royal Sanitary Institute.

Margaret St., London, W.

Patron:—His Majesty the King.

The Right Hon. The Earl of Plymouth, P.C., C.B., D.L., J.P., Lord Lieutenant of Glamorganshire, has consented to act as President of the Twenty-fourth Annual Congress and Exhibition of the Royal Sanitary Institute to be held at Cardiff from July 13th to 22nd, 1908.

The public meeting to inaugurate arrangements for the Congress will be held at the City Hall, Cardiff, on Thursday, Feb. 6th. The Right Hon. The Lord Mayor will take the chair at 3.30 p.m.

Liability of Motorists.

Sheriff Gardner Millar in Edinburgh Sheriff Court issued last week his judgment in an action raised by Alexander Lindsay, farmer, Lockwood Mains, Beattock, and Robert Forrest, farmer, Nether Murthat, Kirkpatrick-Juxta, against W. E. Townsend, engineer, Rutland Square, Edinburgh, for damages caused by the defender's motor car running into a flock of sheep belonging to the pursuers. The sheep in question, which were bought at Lockerbie sale on the 9th Aug., were being driven home at 9 o'clock at night, when the accident occurred. The pursuers averred that the accident was due to the fault and negligence of the defender in driving his car recklessly and without due and proper regard to the safety of life and property on a public highway. On seeing the car some distance off, the pursuer Lindsay went forward and shouted to the occupants of the car, but the warning was disregarded. The defender denied fault; he admitted having seen the man some distance off, but mistook his signals for that of a drunken man. The Sheriff finds that the defender was at fault in not, after he saw Lindsay, either bringing the car to a standstill, or, at any rate, to such a degree of speed as would have enabled him to bring it to a standstill as soon as he arrived at where Lindsay was. The Sheriff holds that Lindsay did everything he could to stop the car, and if the defender failed to do so through any misapprehension of the pursuer's signals he must bear the burden of that. He assesses the damages at £12, with expenses.—*N. B. A.*

Vanishing 'Bus Horse—Labour Changes.

Nobody has attempted to calculate the difference which the introduction of the motor-'bus makes to the amount of available employment in London. Yet the change from horse to petrol, partial though it be at present, has already had a far-reaching influence. The London Road Car Company is now announced as shortly disposing of stabling and other premises which between them accommodate about 800 horses. This number of animals not only involves the employment of a large number of stablemen, whose occupation is practically gone, but it cuts into tradition in a variety of ways. The riverside wharf, where grain and hay are received, the silo, the hay store, the grain-crushing mill, the weighing machine, the farrier's shop—these all go by the board so far as an omnibus company which is turning to petrol traction is concerned.

Even in the matter of shoeing a good deal of labour would be required for 800 horses. Then, again, there is the harness, which is a big item. It will be wanted no more than the services of those men who have had to look after the horses by day or by night, to feed and to groom them, and generally to supervise their comfort. The veterinary surgeon is also a person who deserves sympathy for, with the advent of motor-traction, he becomes a person of comparative unimportance, from the standpoint of the omnibus companies. Generally the adoption of motor traction in the case of omnibus traffic is disturbing old relations between employer and employed, and between consumer and producer, to a degree which the man in the street little suspects as he sees the motor-'bus hurry by.—*Daily Telegraph.*

Personal.

Capt. A. SMITH, F.R.C.V.S., won the Lahore Grand National Cup, with his mare "Pearl-O'-Dee," ridden by Mr. Stewart, who rode sixth in the last Liverpool Grand National.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Jan. 10.

IMPERIAL YEOMANRY.

Staffordshire (Queen's Own Royal Regiment).—Vet.-Lieut. J. A. Connell to be Vet.-Captain. Dated 28th October, 1907.

VOLUNTEER CORPS.—ROYAL GARRISON ARTILLERY.

1st. Ayrshire and Galloway.—Vet.-Major (Vet.-Major retired pay) J. Hammond resigns his commission, with permission to retain his rank, and to wear the prescribed uniform. Dated 9th Dec., 1907.

Lieut.-Col. R. W. Raymond has taken up the appointment of Principal Veterinary Officer of the London District, in place of Major F. C. Stratton.

OBITUARY

WILLIAM ROBERTSON, M.R.C.V.S., Perth.
Graduated, Edin: Dec., 1902.

Mr. Robertson died at his residence, Princes Street, Perth, early on Tuesday morning. On Friday last, while driving out the Edinburgh Road, his pony bolted, and he was unable to draw it up, with the result that he was thrown somewhat heavily from his trap against a wall at the farm steading of Elcho Grange, near Perth. He was conveyed to to Perth, Doctors Paton and Bissett attended, while latterly a specialist from Edinburgh was consulted. An operation was considered advisable, but the temperature of the patient was very low, and the idea had reluctantly to be abandoned. Fracture of the base of the skull had occurred.

Mr. Robertson was a native of Dalziel, Inverness, having been born there only twenty-eight years ago, his father being a well-known farmer. For six years he acted as assistant to prominent vets. in the South of England, before coming to Perth two years ago. Deceased built up a large and extensive practice, and by farmers in the county was considered an expert. A young man of great promise, Mr. Robertson was unmarried, and his untimely death will be regretted by a large circle of friends and acquaintances. Sincere sympathy is expressed with his aged mother in her sore affliction. The funeral took place at Inverness on Friday.

The death has just taken place of Mr. George Scott, veterinary surgeon, Millerstain, Kelso. With the exception of the time spent at college, deceased spent practically all his life at Millerstain, and, although he was about seventy years of age, he had been laid aside from active duties only for about three weeks. His father was farrier at Millerstain when the Haddington family kept a large stud of horses, and Mr. Scott succeeded him in the business. In the district he built up a large practice. He was a man of fine physique, and was a general favourite with the extensive agricultural community whom he served so long and so faithfully. —*N.B.A.*

CORRESPONDENCE.

INSURANCE COMPANIES FEES.

Sir,

Is it not time that some suggestion should be made as to the correct attitude the profession should adopt towards Insurance Companies. I received this morning a form from a company accompanied by a postal order for 2s. 6d. for the examination of a doctor's brougham horse. I did examine—simply to oblige the Dr. and the agent, both of whom as friends of mine. Why an Insurance Company should get such work done at whatever they choose to pay I fail to see, and I have written to the Manager of this particular corporation to the effect that I shall do so no more, and that I fail to see why they should get their work done at less than the fee for an ordinary attendance. I should be glad to hear the opinions of the profession, and should suggest that any practitioner should refuse to give his opinion as to value, risk etc. under 5s. per horse.—Yours faithfully,

COUNTRY PRACTITIONER.

PARLIAMENTARY COMMITTEE.—A CORRECTION.

Sir,

May I make the following small but important correction in your report of the Parliamentary Committee in your issue of the 18th January.

I am reported to have said that *ten* days was the period allowed in which to make any comments on the proposed rules. What I should have said, and thought I had said, was that *forty days* is the period allowed in which to make representations or suggestions with regard to rules made under the Rules Publication Act 1893.—Yours truly,

FRANK W. GARNETT.

Windermere, Jan. 19th.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. F. T. Barton, H. Lomas, E. Wallis Hoare.

R.A.S.E. Report of the Committee *re* Tuberculosis in Cattle. *The Trotter and Pacer, The Daily Telegraph, The Cork Examiner.* Jan. 18.

Messrs. F. W. Garnett, H. T. Eve, W. H. Bradley Adam Gibson, W. Awde.

Annual Administration Report Bombay V. Coll. and C.V. Dept., Bombay Presidency, including Sind, for Official Year. 1906-7. Report on the Health and Sanitary Condition of the Colony of Hong Kong for 1906. The Welshman (Carmarthen), *The Scotsman.* Jan. 25.

Veterinary Societies—Addresses.

Alterations for this list must be duly notified by the Secretaries

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

CAPE OF GOOD HOPE V.M.S.
Pres. Mr. D. Hutcheon, M.R.C.V.S., Cape Town
Hon. Sec. & Treas. Mr. J. W. Crowhurst

CENTRAL V.M.S.
Pres. Mr. J. Willett, M.R.C.V.S., 6 Harley Place, London, W.
Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S., 122 St. George's Avenue, Tufnell Park, N.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square. Holborn, at 7 p.m

CENTRAL CANADA V.A.
Hon. Sec: Mr. A. E, James, Ottawa

CENTRAL V.A. OF IRELAND.
Pres: Mr. E. C. Winter, F.R.C.V.S., Limerick
Hon. Sec. Mr. P. J. Howard, M.R.C.V.S., Ennis
Treas: Mr. J. F. Healey, M.R.C.V.S., Midleton

EASTERN COUNTIES V.M.A.
Pres: Mr. F. Low, M.R.C.V.S., Norwich
Hon. Sec. & Treas: Mr. H. P. Standley, M.R.C.V.S. Wymondham
Meetings, Second Tuesday, Feb. and July

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. James Lowther

VET. MED. ASSN. OF IRELAND.
Pres; Prin A. E. Mettam, R. V. Coll., Dublin
Hon. Sec: Mr. J. McKenny, M.R.C.V.S., 116 Stephens green-west, Dublin
Hon. Treas: Mr. M. Hedley, F.R.C.V.S, 6 Royal Terrace West, Kingstown

LANCASHIRE V.M.A.
Pres: Mr. E. H. Stent, M.R.C.V.S., Gladysmount, Stretford, Manchester
Hon. Sec.: Mr. G. H. Locke, M.R.C.V.S. Grosvenor-street, Manchester
Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres. Mr. T. W. Turner, M.R.C.V.S., Sleaford
Hon. Sec: & *Treas*: Mr. G. Lockwood, M.R.C.V.S., Peterborough
Meetings, Second Thursday Feb., June, and October

LIVERPOOL UNIVERSITY V.M.S.
Pres: Prof. Boyce, F.R.S.
Hon. Sec. & Treas: Jno. T. Share-Jones, University, Liverpool
Meetings, May. July, October, January.

VET. ASSN. OF MANITOBA.
Pres: Dr. W. E. Martin, Winnipeg
Hon. Sec. & Treas: Mr. F. Torrance, Winnipeg

MIDLAND COUNTIES V.M.A.
Pres: Mr. F. J. Taylor, M.R.C.V.S., Moseley, Birmingham
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S., Camden House, High-st., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday. and Friday alternately in Feb., May, Aug. and Nov

NATIONAL VET. ASSOCIATION.
Pres: Mr. R Roberts, F.R.C.V.S., Tunbridge Wells
Sec: Mr. William Hunting, F.R.C.V.S.
Treas: Mr. F. W. Wragg, F.R.C.V.S., Whitechapel, London

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. W. A. Taylor, F.R.C.V.S., Brick-st, Manchester
Treas: Mr. J. B. Wolstenholme, F.R.C.V.S., Quay-street, Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S. Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A.
Pres: Mr. J. Davidson, M.R.C.V.S., Westgate Road, Newcastle-on-Tyne
Hon. Sec: Mr. E. R. Gibson, M.R.C.V.S. 25 Marlborough-street, Seaham Harbour
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF IRELAND V.M.A.
Pres: Mr. J. J. Ross, M.R.C.V.S., Belfast
Hon. Sec; Mr. J. Gregg, M.R.C.V.S., Belfast
Hon. Treas; Mr. J. A. Thompson, F.R.C.V.S., Lurgan

NORTH OF SCOTLAND V.M.S.
Pres: Mr. James Peddie, F.R.C.V.S., Nethergate, Dundee
Hon. Sec. & Treas: Mr. Geo. Howie, M.R.C.V.S., Alford, Aberdeen

NORTH WALES V.M.A.
Pres: Dr. G. J. Evans, M.R.C.V.S., Bangor
Hon. Sec. & Treas. T. C. Howatson, M.R.C.V.S., St. Asaph
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. J. H. Tennent, V.S., London, Ontario
Sec: & *Treas*: Mr. C. H. Sweetapple, V.S., Toronto, Ontario

PROVINCE OF QUEBEC V.M.A.
Hon. Sec: Mr. Gustave Boyer, Rigand, P.Q.

ROYAL COUNTIES V.M.A.
Pres: Mr. R. Craig Tennant, F.R.C.V.S., Thames Street, Windsor
Hon. Sec. & Treas: Mr. Percy J. Simpson, F.R.C.V.S., Kendrick House, Maidenhead
Meetings, Last Friday, Jan., April, July and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S, Auchtermuchty.
Hon. Sec:

ROYAL VETERINARY COLLEGE M.A.
Pres: Dr. Lander, D.Sc.
Hon. Sec: Mr. T. C. Graves, M.R.C.V.S.
Assist. H.S. Mr. H. J. Allen

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. John W. McIntosh, M.R.C.V.S., Eskbank. Dalkeith
Hon. Sec: Mr. A. Gofton, M.R.C.V.S., Ryl. Dick Vet. Coll.

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. J. Wilson, M.R.C.V.S., Yarm
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.S.
Pres: Mr. R. Roberts, F.R.C.V.S., Tunbridge Wells
Hon. Sec: Mr. J. Alex. Todd, M.R.C.V.S., Worthing
Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne
Meetings, Last Thursday, Mar., June and Sept.

TRANSVAAL V.M.A.
Pres: Mr. J. M. Christy, M.R.C.V.S., A.P.V.S., Pretoria
Hon. Treas; Mr. J. H. Bell, M.R.C.V.S., D.V.S., Krugersdorp
Hon. Sec: Mr. T. H. Dale, M.R.C.V.S., D.V.S., Potchefstroom

WESTERN COUNTIES V.M.A.
Pres: Mr. John Dunstan, M.R.C.V.S., Liskeard
Hon. Sec. Mr. W. Ascott, M.R.C.V.S., Bideford
Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Mr. James Weir, F.R.C.V.S., 24 Pollock-st., Glasgow
Joint Hon. Secs: & *Treasrs*: Messrs. Hugh Begg and John R. McCall, Vety. Coll.
Meetings, Second Wednesday, May, Oct. and January.

YORKSHIRE VET. ASSOCIATION
Pres: Mr. J. McKinna, F.R.C.V.S., Ramsden st, Huddersfield
Hon. Sec; Mr. J Clarkson, M.R.C.V.S., Garforth, nr. Leeds
Hon. Treas: Mr. H. G. Bowes, M.R.C.V.S., 106 Clarendon-road, Leeds